Group B11 Project Progress

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Meet Our Client

This is Paris Escandon

- A digital artist from Ottawa
- Legally blind
- Uses photography to see the world around him

Customer Needs

Number	Need	Importance (1-5)
1	Software that doesn't restrict the user's Phone/PC, able to turn on and off very easily	5
2	External peripheral tool to connect to various devices	2
3	English/Spanish quick change translator	2
4	Voice recognition with various Phone apps	4
5	Selection of what they need the app to read, Non-selective text reader	5
6	Compatible with gestures, keybinds, or gaming mice	2
7	Compatible with messaging apps	4

Problem Statement

People with a low to high visual impairment are in need of an assistive device, or application to aid their use of smart technology. This device should include voice recognition technology, screen selection readers, availability in multiple languages, and should be compatible with other devices and their applications.

	Importance (Weight)	Be My Eyes (app)	Sullivan + (app)	Dolphin ScreenReader
Selection reader	**5**	3	2	3
English/ Spanish quick translate	**2**	3	1	2
Compatibility with messaging apps	**4**	1	2	3
Voice Recognition	**4**	3	1	3
External hardware/ Bluetooth	**2**	1	1	3
Easy to turn on and off (keybinds, etc)	**5**	2	2	3
Link		https://www.bemyeyes.com/	https://blog.mysullivan.org/2019/09/total-blindness-people-with-low-vision.html	https://yourdolphin.com/product/features?pid=3
Score		49	36	64

Benchmarking

TARGET SPECIFICATIONS

Functional Requirements, Constraints, and Nonfunctional Requirements

Functional Requirements

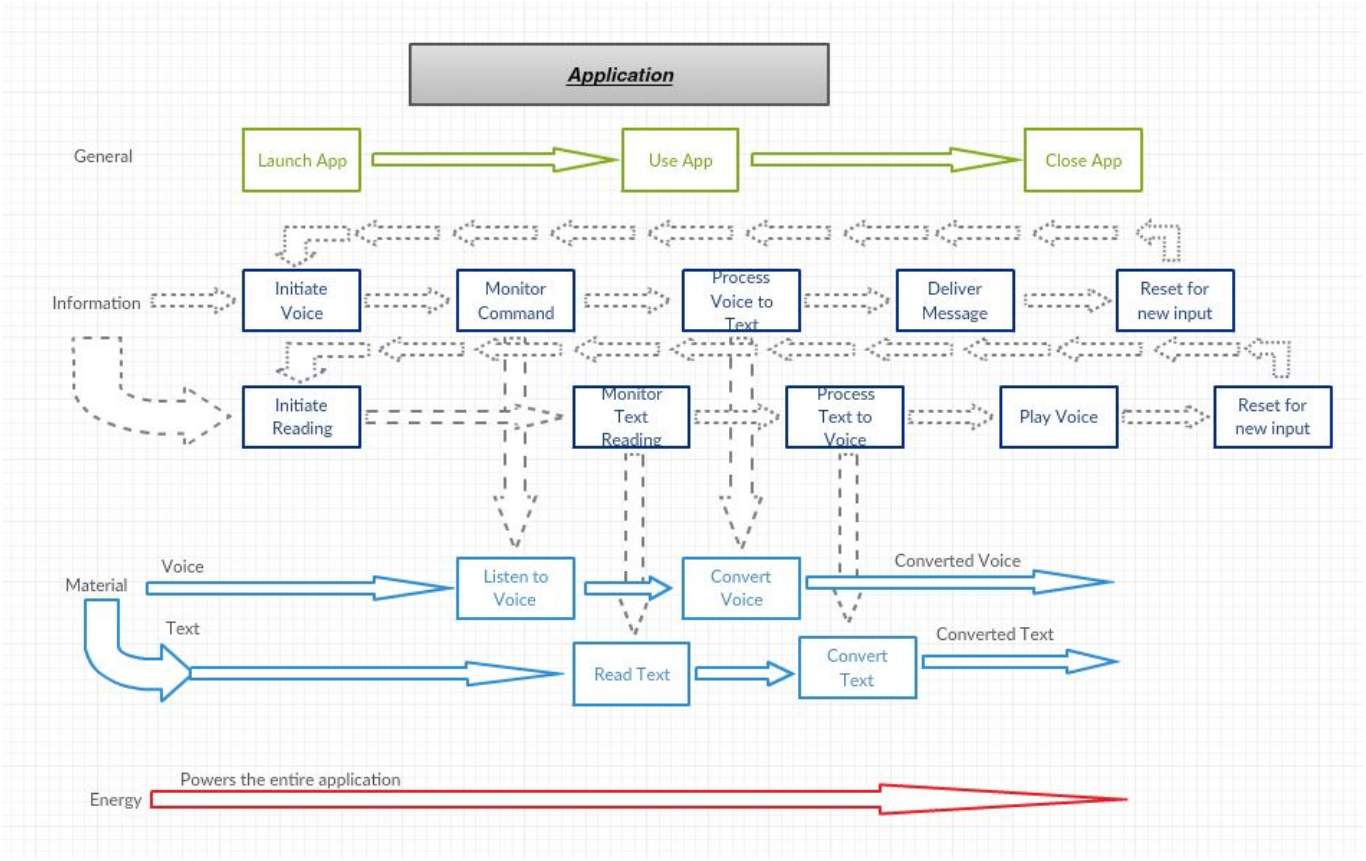
	Design specifications	Relation (=,<, or >)	Value	Units	Verification Method
	Function Requirement				
1	complexity(easy to navigate & easy to learn)	<	5	min	Test the tool with eyes closed
2	Different language settings (English and Spanish)	=	2		Run tests with Spanish speaker
3	Speed of turning on and off	<	5	sec	Repeatedly turning the tool on and using it
4	App response time (send/receive messages through voice)	<	1	sec	Sending messages to our phones

Constraints

	Design specifications	Relation (=,<, or >)	Value	Units	Verification Method
	Constraints				
1	Cost	<	50	$	Estimate, BOM
2	Size	<	30	mb	
3	maintenance/repair	=	1	Update per month	Version history/notes
4	WiFi dependent	=	Needed		Test the tool without wifi

Nonfunctional Requirements

	Design specifications	Relation (=,<, or >)	Value	Units	Verification Method
	Non-Functional Requirements				
1	aesthetics(colours,design)	=	2	Colour schemes	Testing black/white, and colored visibility
2	Text size	>	40	pixels	Testing visibility from various distances
3	OS availability	>	1	OS	Test tool on MacOS, Windows, etc



Functional Decomposition

Feasibility Plan

- Uncertainties/ Risks:
  - Background running system in iOS
  - Client Data Security: No storage of information accessed
- Technical
  - Less knowledge on building screen reader for iOS: Perform task in application, and close it
  - App run in background
  - More research is needed

Feasibility Plan

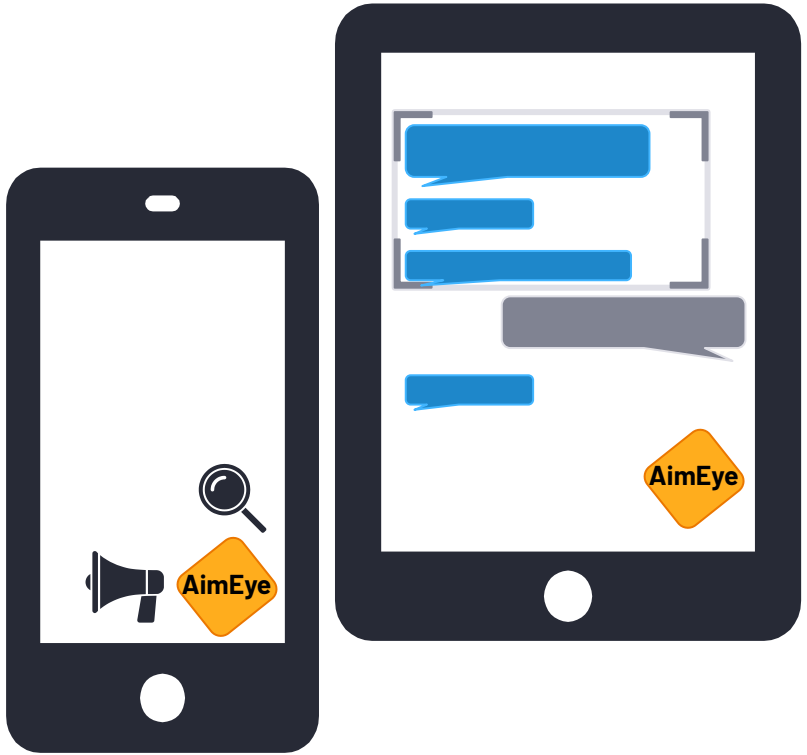
- Economic:
  - Affordable product, software compared to hardware
  - If hardware is created, cost will increase for product development: Pre-built controllers help with cost
- Legal:
  - Data security: no storage of data, voice input or screen reading input

Feasibility Plan

- Operational:
  - Use of gantt chart
  - Weekly meetings
    - Communication
    - Deliverables
- Scheduling:
  - Final Prototype due:
    - December 3rd, 2020
  - On schedule for due dates and milestones
  - If behind schedule:
    - Cut unnecessary features if needed
    - Keep features that have been tested well

Our Group Concept ~ AimEye

- Text- Audio Software
- Voice Controlled
- Overlay Button on screen
- Easy use
- Non-Intrusive



PROTOTYPE 1

User Interface Design + Flow Chart

USER INTERFACE DESIGN

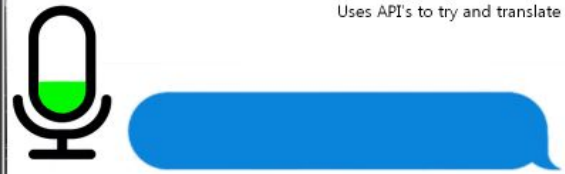
User Interface/ Overlay

- Large Icon for visibility
- Bright colors/themes
- Moveable
- Always on screen until app is closed
- Can activate through button or voice command

Selection Reader

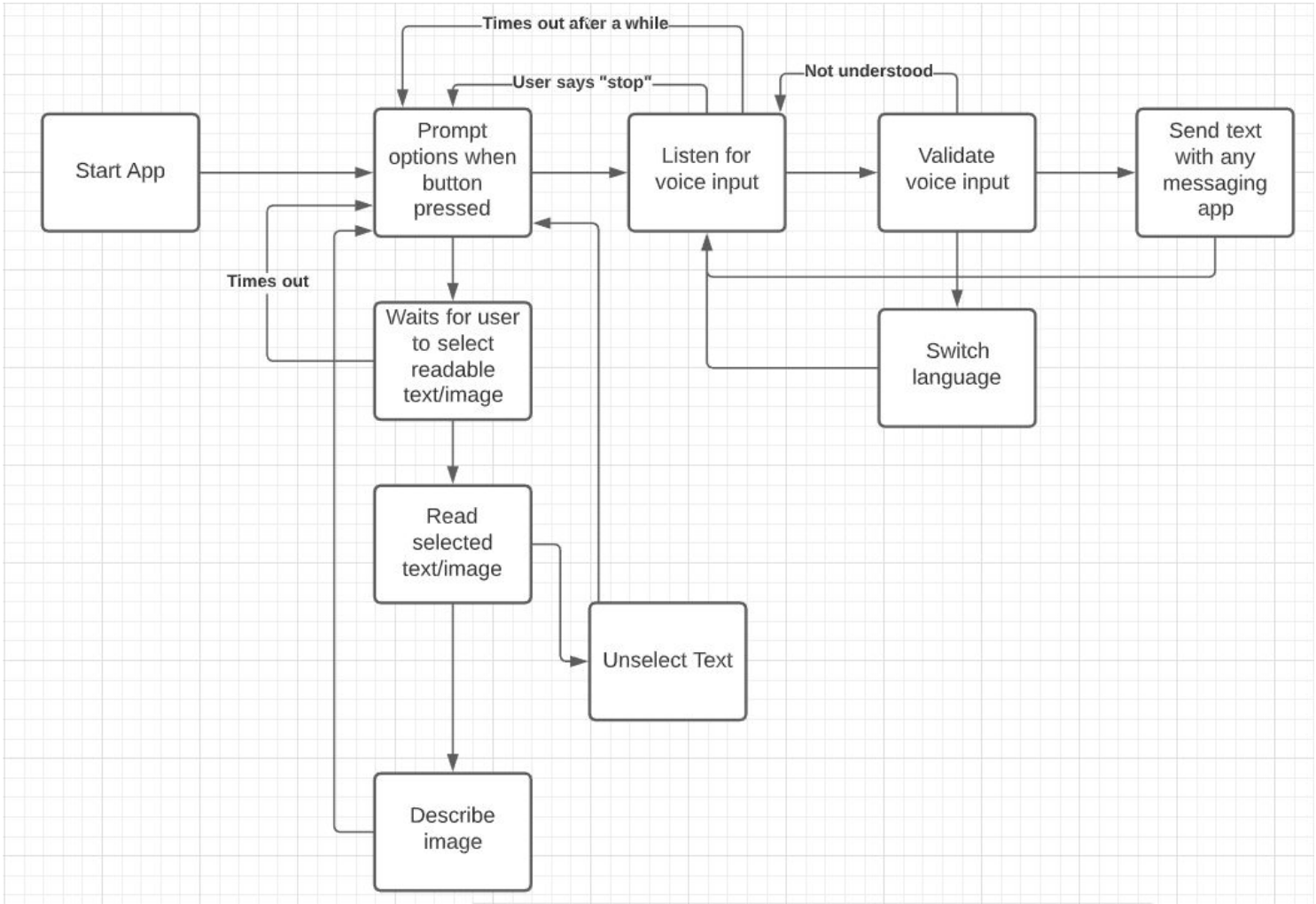
- Moveable, Resizable selector
- Colored corners to help in resizing
- Takes snapshop of contents in box, Uses API's to try and translate any text found

Voice to Text in Apps



- Icon appears on screen to show voice being heard
- Writes to the textbox of App chosen (EX. Skype, WhatsApp, etc)

FLOW CHART OF



Technical Overview

GitHub:

- Manages source code
- Version control

Swift:

- Programming language
- Easy to use and learn

XCode:

- Integrated development environment (IDE)

Technical Overview Cont'd

Speech Synthesis Framework:

- Manages voices and speech synthesis
- Click here for more info

SiriKit API:

- Allows the integration of Siri and Maps
- Click here for more info

PROJECT PLAN

Gantt Chart + Communication

Main Project Tasks

I/P/E	Deliverable A	M/E	Deliverable D Prototype 1	E	Deliverable H
M	Client Meeting 1	E	Deliverable E	E	Deliverable I
E	Deliverable B	E	Deliverable F	C	Deliverable J
E/P	Deliverable C	M	Client Meeting 3	C	Deliverable K
M	Client Meeting 2	M/E	Deliverable G Prototype 2	C	Deliverable L

*I: Initiating , P: Planning, E: Execution, M: Milestone, C: Closing

PROJECT PLAN

Excerpt from Project plan

17	✓		**PD D**	**3 days?**	**Tue 20-10-06**	**Thu 20-10-08**			**100%**
18	✓		Summary of Client Meeting	1 day	Tue 20-10-06	Tue 20-10-06	16	Cadence	100%
19	✓		Goals for next client meeting	1 day	Thu 20-10-08	Thu 20-10-08		Cadence	100%
20	✓		Testing	1 day	Thu 20-10-08	Thu 20-10-08		Ralf	100%
21	✓		BOM	3 days	Tue 20-10-06	Thu 20-10-08		Valerie	100%
22	✓		**Prototype 1**	**2 days**	**Tue 20-10-06**	**Wed 20-10-07**		**Ralf**	**100%**
23	✓		User Interface design	1 day	Wed 20-10-07	Wed 20-10-07		Kevin	100%
24	✓		Flow Chart Design	1 day	Tue 20-10-06	Tue 20-10-06		Cian	100%

COMMUNICATION

Our domain for communication is over Discord

Thank You For Your Time

Contact Us

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